

his prednisone dose. There were no serious adverse events or laboratory abnormalities.

Comment. Previous case reports (6 total patients in 3 reports¹⁻³) describe uniformly effective results for the use of etanercept in PV. Our randomized, controlled study suggests that the response to etanercept is heterogeneous, although the small sample size precludes definitive conclusions. We observed 2 meaningful responses in the 4 patients who received etanercept and completed the study, although the use of azathioprine 1 month before etanercept initiation confounds the results for 1 of these 2 patients. It is possible that a higher dose of etanercept (eg, 50 mg twice weekly) might have conferred additional efficacy. The apparent placebo response is complicated by concurrent initiation of topical therapy in one patient and a questionably meaningful improvement in the other.

One weakness of our study is the lack of a well-validated end point—we noted cases of discordance between changes in lesion number and physician global assessment. Since this study was designed, an international consensus statement has emerged regarding definitions of disease end points and response,⁴ and, in addition, 2 novel outcome instruments for PV have been partially validated.⁵

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Accepted for Publication: July 21, 2010.

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Author Contributions: All authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Kimball. *Acquisition of data:* Fiorentino, Rehmus, and Kimball. *Analysis and interpretation of data:* Fiorentino, Garcia, Rehmus, and Kimball. *Drafting of the manuscript:* Fiorentino and Garcia. *Critical revision of the manuscript for important intellectual content:* Rehmus and Kimball. *Statistical analysis:* Rehmus. *Administrative, technical, and material support:* Garcia. *Study supervision:* Fiorentino, Rehmus, and Kimball.

Financial Disclosure: Dr Fiorentino has received grants from Centocor and Abbott Labs and honoraria from Amgen, Centocor, Chemocentryx, MedImmune, Abbott, Arcutis, Celtix, Combinent, Follica, Galderma, Intendis, Johnson & Johnson, Magen, Neostata, NetEffects, Nuskin, Obaji, Procter & Gamble, Serentis, and Unilever; he filed patent No. 12/694,980 on January 27, 2010, for "Profiling for Determination of Response to Treatment for Inflammatory Disease." Dr Kimball has served as a consultant for Abbott, Arcutis,

Celtix, Combinent, Follica, Galderma, Intendis, Johnson & Johnson, Neostata, NetEffects, Obaji, Procter & Gamble, Serentis, and Unilever. Drs Fiorentino and Kimball are paid investigators and advisors for and receive honoraria from Amgen Inc. Dr Fiorentino has received a grant for fellowship funding from Amgen Inc.

Funding/Support: Amgen Inc provided partial financial and material support for this study.

Role of the Sponsors: The sponsors had no role in the design and conduct of the study; in the collection, analysis, and interpretation of data; or in the preparation of the manuscript. They did review and approve the manuscript before submission with no changes suggested.

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ONLINE FIRST

Skin Conditions That Bring Patients to Emergency Departments

Skin diseases are common in the general population. The prevalence of dermatologic conditions that require medical treatment is estimated to range from 19% to 27%, with acne and eczema being the most common skin diseases.^{1,2} Yet, skin complaints account for only about 7% of all outpatient clinic visits,³ possibly because of the benign nature (both the true and the perceived) of most skin conditions. Perhaps this, as well as the low acute mortality of common dermatologic conditions, could also explain the lack of studies on emergency department (ED) visits that are attributable to skin diseases. Our study aimed to fill this gap and looked at the epidemiology of ED visits due to skin conditions.

Methods. The database used for this study was the National Ambulatory Care Records System, which is managed by the Canadian Institute for Health Information. The National Ambulatory Care Records System is a clinical administrative database with information on patient visits to EDs and day surgery units. It includes basic demographic, clinical, and administrative data.

For the study, we selected the records of patients who visited Ontario EDs between April 1, 2002, and March 31, 2007, and had a principal diagnosis of "diseases of the skin and subcutaneous tissue" (*International Statistical Classification of Diseases, 10th Revision*, codes L00-L99). Note that diagnoses recorded in this database are predominantly made by ED physicians, and it is impossible to discern whether the patient was seen by dermatology consulting services during the visit.

Statistical analysis of the data was performed using SAS software (Version 9.1; SAS Institute Inc, Cary, North Caro-

lina). The study was approved by the University of Toronto Research Ethics Board.

Results. Over a 5-year period, there were 866 976 ED visits attributable to skin conditions in Ontario province, with an annual average of 173 395 visits. For comparison, the number of Ontario EDs visits due to all causes in 2005 was 5 216 000,⁴ meaning that skin complaints account for about 3.3% of all ED visits. There was an approximately equal number of male and female patients. The mean (SD) age was 39.4 (23.5) years, with noticeable overrepresentation of patients at the extremes of ages: infants and persons older than 80 years. Most cases (75%) were triaged as either non-urgent or semiurgent, with only 2% having emergency status. Ninety-four percent of patients were discharged home after a visit, and only 4% required inpatient admission.

Infections of skin and subcutaneous tissue were responsible for more than half of ED visits, followed by dermatitis, urticaria, and disorders of skin appendages

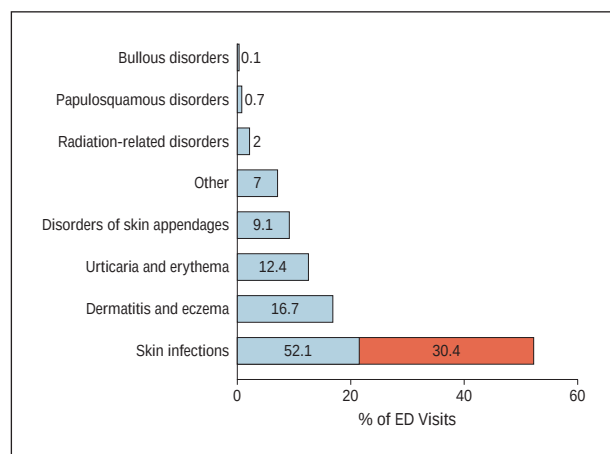


Figure 1. Percentage of each diagnostic category among patients seen in the emergency department (ED) for skin conditions. Among patients with skin infections, the fraction of those diagnosed as having cellulitis is in red.

(**Figure 1**). Of note, bullous disorders accounted for only 0.06% of visits. When stratified by age group, skin infections remained the most prevalent cause of ED visits in older children and adults, while they were outnumbered by dermatitis in infants and urticaria in preschool children (data not shown). When looking at the specific diagnoses, the most common diagnosis that represented most skin infections was cellulitis, which was diagnosed in 30.4% of patients (Figure 1). Among inpatient admissions, a diagnosis of cellulitis was made in 71.4% of patients. Another interesting finding was a presence of striking seasonal variation in ED visits (**Figure 2**). Over a 5-year study period, the number of visits consistently peaked in July and August and decreased in February.

Comment. As expected, dermatologic diseases account for a relatively small fraction of all ED visits, about 3.3%. Although it has not been shown previously, it is not surprising that the skin infections are the most common cause of ED visit and hospital admission from ED. The predominance of skin infections among causes of visits might explain the distinct seasonal variation observed in this study. The summer peaks of ED visits suggest that seasonal factors such as heat and humidity, increased outdoor activities, and higher frequency of insect bites might be implicated as triggers. Of note, a very different seasonal pattern in ED visits has been reported for other conditions, such as asthma, with peaks of visits in the fall, and heart attacks, with peaks of visits in winter months.

A significant percentage of patients seen in the ED were diagnosed as having cellulitis (30.4%). Remarkably, cellulitis was also responsible for more than two-thirds of all inpatient admissions for skin diseases. Although cellulitis is not an uncommon condition, some degree of overdiagnosis cannot be ruled out given that diagnoses were made by ED physicians. A recent pilot study showed that among patients admitted inpatient or to an

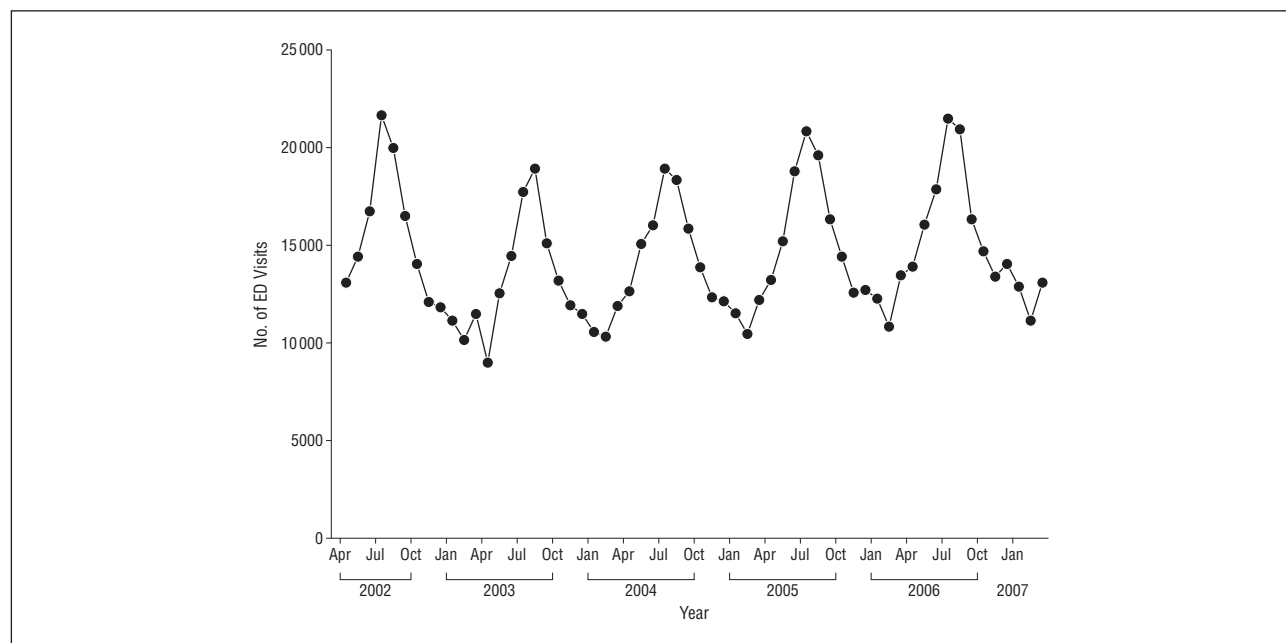


Figure 2. Seasonal distribution of emergency department (ED) visits for skin conditions. The peaks in the number of visits occur consistently in the summer months.

observational unit for cellulitis, the diagnosis was changed after the patients were seen by consulting services (dermatology and infectious diseases) in 20% of cases.⁵ Therefore, we believe that further investigation is needed to find out what the most common mimickers of cellulitis that are encountered by ED physicians are and whether the diagnosis of dermatologic conditions is influenced by the attending physician's specialty.

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Accepted for Publication: July 23, 2010.

Published Online: September 20, 2010. doi:10.1001/archdermatol.2010.246

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Author Contributions: Dr Baibergenova had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design: Baibergenova and Shear. Acquisition of data: Baibergenova and Shear. Analysis and interpretation of data: Baibergenova and Shear. Drafting of the manuscript: Baibergenova and Shear. Critical revision of the manuscript for important intellectual content: Baibergenova and Shear. Statistical analysis: Baibergenova. Obtained funding: Baibergenova and Shear. Administrative, technical, and material support: Baibergenova and Shear. Study supervision: Shear.

Financial Disclosure: None reported.

Additional Contributions: The Canadian Institute for Health Information provided data for this study.

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Detection of Human Papillomavirus in Multiple Eccrine Poromas in a Patient With Chronic Graft-vs-Host Disease and Immunosuppression

A poroma is a benign sweat gland tumor composed of cells with terminal ductal differentiation of either apocrine or eccrine origin. Poromas are usually solitary, slow-growing, skin-colored, sometimes pedunculated papules or plaques. Multiple po-

romas, or eccrine poromatosis, rarely develop in a widespread distribution: 2 cases of eccrine poromatosis have been reported in the setting of chronic immunosuppression^{1,2}; 3 additional reports document the development of multiple eccrine poromas after external irradiation.³⁻⁵

Report of a Case. Our patient developed multiple eccrine poromas after treatment with an allogeneic stem cell transplant with complications of graft-vs-host disease (GVHD) requiring long-term immunosuppression. The poromas were tested for human papillomavirus (HPV) DNA by nested polymerase chain reaction (PCR), and results were positive for beta-HPV. An actinic keratosis and a squamous cell carcinoma (SCC) in situ tested by nested PCR were negative for beta-HPV. To our knowledge, this is the first reported case of HPV positivity in eccrine poromas.

Our patient was a 53-year-old man with a history of mantle cell lymphoma who was treated with an allogeneic stem cell transplant. Over the next 5 years, his posttransplantation course was complicated by chronic GVHD of the skin, mouth, eyes, liver, and gastrointestinal tract, which was managed with photopheresis and immunosuppression with tacrolimus, systemic corticosteroids, and mycophenolate mofetil. He subsequently developed 6 slow-growing, erythematous papules on his palms, heels, and left elbow (**Figure 1**). The papules ranged in size from 2 to 6 mm, and all were similar in morphologic characteristics except for the pedunculated papule on the elbow.

Biopsy specimens of the right palm, elbow, and left heel demonstrated dome-shaped epidermal proliferations composed of small, cuboidal ("poroid") cells with basophilic nuclei emanating from the base of the epidermis and extending into the dermis, which are findings characteristic of eccrine poromas (**Figure 2**). Findings of in situ hybridization studies for low-risk and high-risk alpha-HPV types were negative; however, nested PCR findings for beta-HPV or epidermodysplasia verruciformis (EV) HPV DNA were positive for HPV types 20, 21, and 23 (**Figure 3**).

Comment. Our patient developed severe multisystem GVHD and multiple HPV-positive eccrine poromas after several years of immunosuppressive therapy, which is the third report to our knowledge of multiple eccrine poromas developing in an immunosuppressed patient. Although we have not found HPV positivity reported in any cases of eccrine poromas, 1 study using immunoper-



Figure 1. Erythematous, well-circumscribed plaque on the right heel.